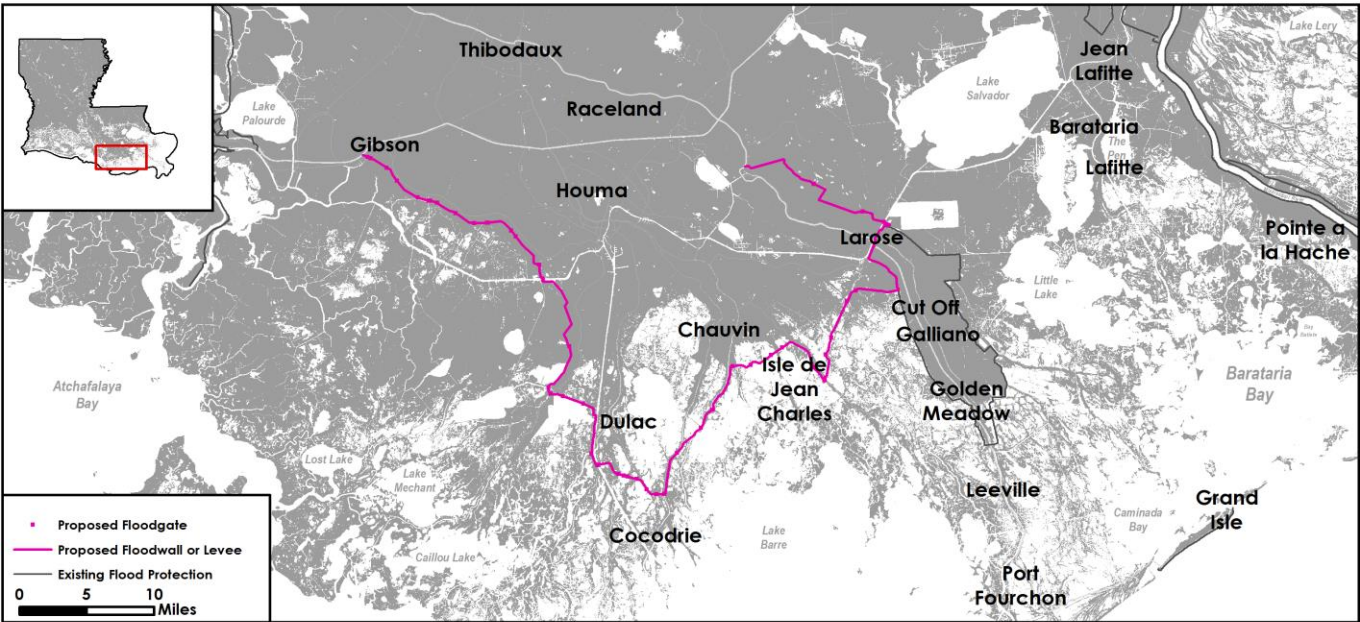


Morganza to the Gulf

Structural Protection

Project ID: 03a.HP.02b



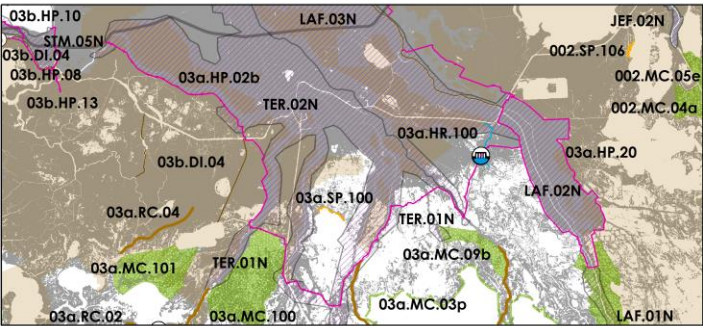
Description

Construction of a levee to an elevation between 15 and 26.5 feet NAVD88 around Houma and Terrebonne Ridge communities from Larose to Humphreys Canal. Project features 471,500 feet of earthen levee, 39,600 feet of T-wall, (22) 6-foot sluice gates, (1) 30-foot stop log, (2) 20-foot stop logs, (13) 56-foot sector gates, (1) 250-foot sector gate, (1) 175-foot sector gate, (1) 125-foot sector gate, (1) 110-foot sector gate, (1) 30-foot sector gate, (1) 110-foot lock gate, (1) 30-foot roller gate, (4) 40-foot roller gates, (1) 56-foot barge gate, (1) 30-foot barge gate, and (4) pump stations.

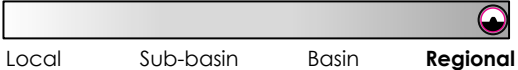
Project Cost Estimate

	Estimated Cost
Planning/Engineering & Design	\$996,800,000
Construction	\$6,888,900,000
Operations & Maintenance	\$396,200,000
Total	\$8,281,900,000

Other Nearby Projects in the Master Plan



Scale of Influence



Project Location

Lafourche Parish; Terrebonne Parish

Project Duration

Planning, Engineering, and Design is estimated to take 3 years.
Construction is estimated to take 10 years.

Other Project Area Statistics

Estimated Current Population U.S. Census (2010), U.S. Dept. of Energy Oak Ridge National Laboratory, Land Scan (2011)	181,400
Percent of Population who are Low-to-Moderate Income American Community Survey (2006 - 2010)	40%
Number of Severe Repetitive Loss Properties Governor's Office of Homeland Security (2015)	1,712

Morganza to the Gulf Structural Protection

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Economic Damage

Structural protection projects are evaluated by how they reduce Expected Annual Damage (EAD) for a particular area. EAD represents the average direct economic damage projected to result from storm surge flooding events, from Category 1 or greater storms, in any given year, taking into account both the expected damage and the overall frequency of such storms occurring. EAD is a summary measure of the potential damage averaged over the entire distribution of possible flood events. Damage is also summarized at various return periods (DRP), e.g., 100-year damage being the damage with a 1% chance of occurring or being exceeded in a given year. The following are the economic damage summaries for the Future Without Action (FWOA) and Future With Project (FWP) conditions, for the project as a whole (Table 2), and for each Risk Region (Table 3). EAD and DRP values are reported in millions of dollars.

Table 2: Expected Annual Damage

Year	FWOA	FWP	Difference
0	\$1,077 M	-	-
25	\$3,479 M	\$2,079 M	\$1,400 M
50	\$10,411 M	\$7,059 M	\$3,351 M

Critical Infrastructure

The data in Table 1 was provided by GOHSEP and the Homeland Security Infrastructure Program (HSIP). "Protected" assets are those that otherwise flood in FWOA conditions but are protected by the project.

Table 1: Critical Infrastructure Counts

Asset Type	Protected	Total
Airport Facility	-	-
Gas Processing	2	27
Government/Military	-	2
Electric Power Substation	-	36
Liquefied Natural Gas Terminal	-	-
Louisiana Offshore Oil Port	-	1
Manufacturing/Chemical	1	14
Electric Power Plant	2	21
Port	-	1
Petroleum Pump Station	-	17
Refinery	-	4
Water and Sewer	-	7
Strategic Petroleum Reserve	-	-
Total	4	130

Table 3: Economic Damage by Return Period at Year 50

Risk Region	50 Year		100 Year		500 Year	
	FWOA	FWP	FWOA	FWP	FWOA	FWP
Assumption	\$5,186 M	\$4,366 M	\$5,333 M	\$4,538 M	\$5,405 M	\$4,692 M
Assumption - Amelia	\$49 M	\$49 M	\$50 M	\$50 M	\$50 M	\$50 M
Jefferson - Grand Isle	\$1,275 M	\$1,275 M	\$1,281 M	\$1,281 M	\$1,322 M	\$1,355 M
Jefferson - Lafitte/Barataria	\$1,609 M	\$1,601 M	\$1,633 M	\$1,628 M	\$1,655 M	\$1,651 M
Lafourche - Larose/Golden Meadow	\$9,480 M	\$10,430 M	\$9,657 M	\$10,960 M	\$9,711 M	\$11,011 M
Lafourche - Lower	\$455 M	\$500 M	\$459 M	\$501 M	\$460 M	\$501 M
Lafourche - Raceland	\$23,892 M	\$13,032 M	\$25,279 M	\$14,118 M	\$28,269 M	\$15,936 M
Plaquemines - Grand Bayou	\$99 M	\$97 M	\$100 M	\$98 M	\$100 M	\$98 M
Plaquemines - West Bank	\$1,167 M	\$1,132 M	\$1,246 M	\$1,220 M	\$1,263 M	\$1,236 M
St. Charles - Hahnville/Luling	\$14,838 M	\$14,288 M	\$15,129 M	\$14,595 M	\$15,330 M	\$14,791 M
St. Charles - Salvador	\$138 M	\$136 M	\$140 M	\$140 M	\$143 M	\$140 M
St. James - Vacherie	\$1,832 M	\$1,796 M	\$1,924 M	\$1,894 M	\$2,007 M	\$1,967 M
St. John the Baptist - Edgard	\$533 M	\$526 M	\$541 M	\$530 M	\$558 M	\$541 M
St. Martin	\$614 M	\$591 M	\$621 M	\$594 M	\$624 M	\$604 M
St. Mary - Franklin/Charenton	\$740 M	\$710 M	\$913 M	\$899 M	\$982 M	\$966 M
St. Mary - Lower	\$4,572 M	\$4,364 M	\$4,791 M	\$4,493 M	\$4,856 M	\$4,764 M
St. Mary - Morgan City	\$10,556 M	\$9,229 M	\$10,878 M	\$10,284 M	\$11,666 M	\$11,213 M
St. Mary - Patterson	\$111 M	\$111 M	\$113 M	\$112 M	\$114 M	\$115 M
Terrebonne - Houma	\$87,756 M	\$31,596 M	\$90,908 M	\$40,647 M	\$92,087 M	\$53,403 M
Terrebonne - Lower	\$1,820 M	\$2,032 M	\$1,857 M	\$2,058 M	\$1,872 M	\$2,074 M
Total	\$166,724 M	\$97,862 M	\$172,852 M	\$110,637 M	\$178,474 M	\$127,109 M